



## Stormwater Needs Assessment Project

### STORMWATER ADVISORY COMMITTEE

#### Discussion Paper on Credits – Updated

##### **Background:**

During the January 11, 2005 Committee meeting, the following discussions occurred regarding credits. The notes below are from the draft minutes of the meeting. The full minutes will be reviewed and approved at the February 8, 2005 meeting.

##### Utility Policies – Credits

The Committee discussed the use of credits in utility policy. Ms. Treadway noted that generally credit policy is established to recognize the value of a private investment to the overall County effort in managing stormwater. Credits are not automatically granted, nor are they granted in perpetuity. They must be applied for and the owner must provide documentation that the service or function is being provided and/or maintained. Credits can be taken away if a facility is not properly maintained.

Ms. Treadway asked the Committee to consider potential activities that would warrant a credit in Fairfax County. She noted that structural facilities with water quality and quantity controls, that reduced peak flows or that exceed current standards are typically awarded credits. She noted that credit policies are locally-driven, and there is no state legislature that specifies credit type.

*Residential Property Participation:* The group discussed whether or not residential properties should be eligible for credits. For example, in Reston and Lake Barcroft, all of the homeowners currently pay fees to maintain their stormwater system. Ms. Treadway stated that most credits consider the County-wide value of the stormwater facility, and do not differentiate between residential and non-residential properties. Therefore, residential properties can be eligible if they provide a qualifying service.

*Credit Limits:* It was noted that ratepayers seldom receive 100% credit; different percentages of the fee are dedicated to different countywide issues, such as stream restoration and resource inventory. All properties should pay a base amount to account for these expenditures.

*Public Education:* The Committee discussed providing credits for public education efforts by private entities. It was agreed that public education is worthy of credits; however the focus should be on activities that have tangible (*concrete!*) results, such as quality and quantity benefits.

*Open Space:* The Committee discussed if undisturbed open space should be given a credit. If “imperviousness” is the basis for the fee, then open space is automatically given credit, since it is not part of the rate base and would not



generate a fee. However, it was discussed whether the dedication of a conservation easement to ensure that the property would never be developed could be considered. Ms. Treadway indicated that it would entirely depend on whether the owner had a property, perhaps adjacent to the area dedicated, which was generating a fee so that the credit applied to another property. Credit policies are not set up to give money to non-rate payers.

*Other Concepts:* The Committee agreed that facilities that provide peak flow reductions, runoff velocity reductions, on-site detention, and that mimic pre-development hydrologic conditions should be credited.

## **I. GENERAL DISCUSSION - INTRODUCTION TO CREDITS**

### Credits in the Rate Structure

The use of stormwater utility methods for financing urban stormwater programs is growing rapidly in popularity in the United States. The rate structures of such utilities are becoming more complex as more and more counties and cities turn to this method for stormwater financing and more examples abound. All rate structures are made up of three components: a basic fee and rate methodology, secondary funding methods and rate modifiers.

Initial discussions on the rate methodology have identified the use of total impervious area as the primary basis for the charge and to incorporate several rate modifiers and secondary funding methods within the rate structure. Stormwater credits are a type of rate modifier.

Credits typically do not have a significant revenue reduction impact (estimated at 5 to 10 percent) but may have large potential in creating equity within the rate structure and, therefore, addressing potential resistance to the concept from fee payers who would qualify for a credit. There is a difference between a one-time credit (often termed an offset) and an ongoing credit.

### The Basis for Charges

Stormwater utilities typically generate most of their revenue through "user" fees. "Use" of the drainage system is defined as the demand a property places on that system and the stormwater services provided which protect the property (such as flood plain management and water quality permit compliance). The demand a property places on a system can be measured in terms of peak flow of stormwater runoff generated by the property; in general the greater the flow the greater the demand, and thus the greater the user fee. Additional major considerations in determining the demand placed on stormwater systems and services are the total volume of stormwater discharged and the total loadings and intensity of pollutants discharged into the stormwater. There are other impacts of urban development including reduction in base flow, thermal impacts, faster peak arrival times, higher velocities, and so on. Credits should generally be given for an action or situation which reduces one or more of these impacts. The total cost of services should be evaluated to determine the breakdown by service area for the program to address these conditions or outcomes (i.e., peak flows, pollutant loading, flood plain management, water quality permit compliance). This information is useful in evaluating the appropriate percent reduction of any particular activity warranting a credit.

## II. DIFFERENT BASES FOR CREDITS AND RECOMMENDATIONS

### Introduction to Credit Basis

Credits are often granted to provide incentives to implement or carry out an overall community stormwater management plan or to advance some other social or environmental objective. It must be remembered that any user fee must have some basis for calculation and application. Theoretically, stormwater credits are granted for less demand placed on the system and/or an avoidance of expenditure needed by the County to address a service or capital investment.

Credits which have been used around the country and which result in reduced service charges have been based on a number of factors:

1. Certain activities which improve the system beyond normal expectations;
2. Certain on-going activities on the property which reduce impact;
3. Certain on-going activities on the property which reduce the utility's cost of service; and/or
4. Certain on-going activities that reduce the programmatic requirements of the utility.

### A. Discussion Regarding "Classes of Payers"

Credits granted on the basis of a classification of ratepayers are not appropriate, generally on the basis of discriminatory impacts. Classification of payers typically is based on criteria such as the economic situation or status of the ratepayers. Although this may involve good social purpose or values, it has a technical and legal shortcoming in that economic criteria are not related to the reason the fee is established. Because it is a user fee, users must be treated equally under the legal authority for establishing the fee, in relation to the demand they generate for systems and services. To exempt or credit certain classes of persons for economic reasons, no matter what the need, on any basis other than reduction in cost of service or impact on the system violates the fundamental standard of the user fee basis of the utility.

There may be ways to grant such rebates of fees based on purely social arguments apart from the utility rate process, such as general fund allocations to pay utility charges of economically disadvantaged persons. This then becomes a policy decision based on non-technical merit and is not a part of the rate study per se, though it must be accounted for in revenue reduction estimates unless it is taken from general funds.

*Recommendation: No special credit or exemption should be given on the basis of payer class. Should the County desire to address social issues, it should be done outside of the fee-structure and evaluated on other criteria or merits.*

### B. Credits Based on Classes of Property

Credits based on classes of property can be divided into three groups: private property classes, state and federal government property classes, and local government property classes.

#### **Private Property Classes**

Tax Exempt Property. Tax exempt private properties impose demands on stormwater systems, but

do not generate revenue to cover the cost of service to these properties, when stormwater services are funded through General Fund resources. This is often cited as a key motivation for creation of equity in fee allocation. As in the previous discussion, credits that exclude tax exempt properties from a stormwater service charge would violate the equity standard for a user fee and violate the principle that ownership, unless specifically addressed under the enabling legislation, is not a criteria for credits.

*Recommendation: Credits should be granted for all properties based on the technical merit of the facilities or services provided, regardless of ownership.*

Agricultural and "Undeveloped" Properties. Agricultural and "undeveloped" properties also offer another type of private property class. It can be argued that this type of property does not create the same impact on the drainage system as developed property because the infiltration capabilities of the property are not diminished. This may be quite true in the case of forested areas. For open grassy areas, the runoff is greater than forested property due to the loss of the rainfall retention of forest leaf and natural ground litter. For agricultural and intensively maintained recreational areas (such as golf courses), it can be argued that the pollution and sediment runoff is far greater than in the natural state. In this case, partial or total payment of the fee is warranted. A credit may then be granted for reduction of sediment or maintenance of a pollution abatement program. Credit programs for areas that are undeveloped have been successfully implemented through use of permanent conservation easements, for example. This type of credit would require the inclusion of all properties in the utility rate base, not just those that have been developed (i.e., imperviousness is present).

*Recommendation: Unless the County includes all properties in the rate base, credits are not applicable to this class of property since they are not charged a user fee.*

Individual Property Owners. Often, individual single family detached residential properties are not afforded the credit opportunities of non-residential properties. In the past, as utilities were created throughout the country, activities an individual homeowner could take to reduce stormwater pollution were considered minor (though in aggregate, would have a measurable impact) and nearly impossible to monitor without a significant investment by the community. To partially address this problem, communities typically allow homeowner associations to be eligible for certain types of credits, for regional-type structures. The administrative cost burden can be excessive in managing single-unit credits so that the savings to the overall program (the avoided public cost of service) is negated by the overhead cost to handle the credit program.

As Fairfax County addresses the incorporation of low impact development (LID) Best Management Practices (BMPs) in the treatment strategies for stormwater pollution reduction and control, consideration should be given for inclusion of individually owned, residential, single-lot BMPs in the credit program. A process for BMP inspection and technical assistance from the County to the property owner is an important component of service in support of the LID initiatives, to ensure that these structures are maintained and function properly over time.

*Recommendation: It is recommended that the County keep the credit program simple in concept. The County should allow homeowner associations to be eligible for stormwater credits when the system component privately owned and managed serves as a regional facility for the development, addressing runoff from multiple properties within the development. Implementation of the credit should be handled in a manner that is flexible and meets the needs of the property owners. A credit should be evaluated and created to support the LID initiatives of the County with recognition that*

*managing oversight of LIDs will have a cost to the County.*

### **Local, State and Federal Government Property Classes**

State and Federal Facilities. State and Federal facilities do not pay local property taxes and can be exempted from paying the fee in its entirety, based on the State of Virginia enabling authority. . The property in question must have a stormwater system in place and it must be maintained by the “owning” public agency. If, for example, a US Post Office is owned by the Federal Government and does not have a stormwater system on site, then the property is not relieved from paying the fee. In all likelihood, there would be no credit eligibility either, since the legal exemption requires the presence of a “stormwater system.”

When conditions meet the requirement for a Federal or State property to pay the fee, charging them a stormwater user fee becomes a new source of revenue for the utility and broadens the rate base by creating greater equity in the allocation of costs. The charging of other governmental facilities implies that the local government will provide some services to handle the runoff from or to these facilities. The utility must be prepared to actually handle runoff to and from these facilities if it charges them.

*Recommendation: It is recommended that state and Federal facilities be treated like any other property and charged a fee if the legal test is met as established under the State enabling legislation. In all likelihood, a credit would not apply; however, if eligible for a credit, it should be offered as appropriate.*

State Department of Transportation - Roadway Drainage. Under the enabling authority for the stormwater user fee, the County cannot charge the State of Virginia for the imperviousness of the state highway system. By law, this category is totally exempted.

Local Government Properties. Local government properties are not subject to property taxes. However, all local private property owners and other taxpayers participate in the ownership and management costs of these properties through their private property taxes. Exemptions of local government properties from stormwater charges normally is relatively revenue neutral, but who pays taxes is a different set of property owners than those who pay fees.

Under the enabling authority, the County shall not charge itself for properties it owns. However, property owned by other local governments within the service area of the County is not exempted from the user fee unless there is a stormwater system on the property and those systems are maintained. The County Attorney will need to clarify the legal status of properties that are under the ownership of the County School system and the Park Authority. These two bodies have separate legal structures. If it is ruled that these are not “owned” by the County, it is important to evaluate each parcel and determine if a stormwater system is present and if it is maintained, as defined under the law.

*Recommendation: The County Attorney will provide clarification of the ownership of properties for the County Schools and Park Authority. The County will need to review the government-owned parcels within the County to determine (1) if there is a stormwater system on site and (2) if the system is maintained. If these two conditions are not met, then the property is eligible for payment of the user fee and for appropriate credits.*

### C. Credits Based on Location of Property

It can be argued that properties located adjacent to major streams do not make use of the stormwater system in the same way properties do which are located elsewhere in the system. Some communities have granted some measure of credit for those properties which are located adjacent to and discharge directly into major streams or creeks (Portland, Oregon for example). However, with the increase in focus on water quality protection, direct discharges may increase the pollutant loading into the natural stream system as well as increase stream bank failures. Direct discharging does not allow for protection unless there are systems on site to reduce flow, peak rate, and/or pollutant loading.

While these properties do not make use directly of as much of the man-made drainage system as properties located at the top of hills, there are strong justifications for not granting them credits. All properties benefit from installation of an adequate stormwater management system and the proof of special benefit is not necessary. Because of their riparian rights as owners of lands through which, or adjacent to which, streams flow, they are the primary, and often exclusive, beneficiaries of all systems and activities designed to reduce flooding, reduce flood insurance rates, regulate flood plains, develop greenways and clean up surface water. As individuals, they benefit from safer streets during heavy rains and a cleaner environment resulting from NPDES permit activities. They share in the general benefits of cleaner water and sounder development practices.

In fact, in some cities (Boulder, Colorado for example), a surcharge is imposed on floodplain located properties to pay for the city's floodplain administration costs.

*Recommendation: It is recommended the utility not provide credits or exemptions for properties based on location.*

### D. Credit Based on Extraordinary Systems or Activities

Some properties may be required to construct overly large culverts, storm drains, inlets, etc., and do things others are not required in order to provide stormwater systems capable of meeting future as well as current needs. Requirements may range from oversized structures built in-lieu-of on-site detention to activities which enhance the function of the systems. In some cities and counties, requirements that developers provide extraordinary systems or activities are just considered a cost of doing business and credits are not granted. In others, credits are established to provide equity when the system components exceed minimum design criteria. To the extent that such systems and/or activities benefit the public generally, there is typically justification to grant a credit. Credits have been granted for the approved construction of detention or retention systems which handle flow from off-site.

Credits under this category could also be granted for other types of activities as an "in kind" payment. For example, some cities offer a credit to local schools if they provide education on surface water pollution and drainage. Public education is a major component of the County's VPDES permit. Other types may include such activities as assisting in off-site mitigation or maintenance, providing flood fighting or other flood hazard mitigation capabilities; offering education to other businesses or industries; provision of labor for capital construction, etc.

An additional class of credits under this category might be for activities which reduce pollution. One city gives a 25 percent credit for industries which maintain current National Pollutant Discharge Elimination System (NPDES) industrial permits for stormwater discharge. Development almost



without exception increases inadvertent pollution loadings to receiving waters. Illicit or illegal pollution is also part of development. Credit should not be given for reducing illegal pollution. Therefore, credit for disconnecting floor drain connections to storm systems would not be granted in locations where such practices are illegal anyway. Credit could be given for activities which are not required but are beneficial. Therefore, all types of structural and non-structural best management practices (BMP) may be eligible for credit. The next category discusses this in more detail.

*Recommendation: It is recommended that:*

- ◆ *the utility grant a credit for the pollution control portion of the fee for all properties which maintain a current NPDES industrial stormwater permit and are in compliance;*
- ◆ *the utility grant a credit for the pollution control portion of the fee for all properties which have, either through structural controls, land use or Comprehensive Plan requirements, taken steps to reduce pollution from their sites in accordance with the watershed protection measures of the County; and*
- ◆ *the County, in establishing the credit policy, consider other BMPs that are non-structural such as development and implementation of a Stormwater Master Plan on a private development or subdivision (e.g., as in Reston). These BMPs should be established with standards set by the County to ensure consistency in the non-structural programs.*

#### 5) Credit Based on Reduction of Impact

The typical basic guiding principle in developing and granting stormwater credits based on impact and cost reduction can be stated as:

*"Credit should be given for approved private investments or actions which reduce public cost, or which produce a stormwater related public good which is ongoing."*

Under this guiding principle there are a number of ways to look at how credits could theoretically be justified and applied.

Since the fee is typically based on impervious area, the credit should be based on a perceived reduction in impervious area. That is, to the extent owners make their impervious areas look, in terms of hydrologic impact, as if they are less impervious it may be appropriate to allow a credit. If the site impacts runoff as if it were not developed, it should not be charged as if it were. For example, if a property owner makes the hydrologic response from four acres of impervious area look like it is two acres of impervious area, the owner might get a fifty percent reduction in the quantity-based portion of the fee.

The difficult part is:

1. how to define a standard against which the system is judged;
2. how to define the impacts a property has on stormwater systems;
3. how to assign costs of service to the impacts;
4. how to measure reduction in these impacts and associated reductions in the cost of service; and
5. how much of the fee to make subject to crediting.

It is known, for example, that urban development generally has eight basic impacts on the drainage system: higher peaks, more "flashy" peaks, higher velocities, more total flow volume, higher levels

of pollution, more erosion and/or sediment, less long-term base flow, and higher temperatures. Should the credit be divided among these impacts and reductions in each impact credited individually? How much of the program is "chargeable" to peak increases, to pollution, etc.? Some communities provide credit for peak reduction alone.

On the strength of the recent NPDES permits, communities are looking at other ways to apply credits for pollution. The "polluters must pay" theory of financing pollution impacts is used as a basis for credits. Charlotte, NC for example, approached this problem by dividing the total fee among three impacts: peak, volume, and pollution controls for detention and retention facilities only. Control of peak runoff by delaying stormwater discharge to "off peak flow times" so that post-development runoff equals pre-development conditions receives a 50% credit. Reducing post-development total volume and pollutant loadings to the pre-development state may result in a 25% reduction for each factor. There could theoretically be a total of 100% reduction in Charlotte, though this is rarely possible in practice.

Greensboro, NC is approaching this problem in a more complex way providing credits for a variety of pollution reduction mechanisms both structural and non-structural. They propose using an inspector checklist and point rating system for the development of credits.

*Recommendation: It is recommended that impact based credits be provided for reduction in peak flow, volume and pollution reduction. The value of the credit to the owner should be established as it correlates to the overall objectives of the stormwater program, as measured by the cost of services. When a privately owned facility or structure is design to address runoff generated up-stream of the property in addition to the runoff generated on-site, the utility should grant a credit to approved detention and retention facilities which are constructed and maintained in such a way as to control flow from off-site and reduce its impacts (for quantity and quality controls).*

#### 6) Credit Based on Reduced Cost of Service

The provision of detention or retention ponds theoretically reduces the cost of service for a given utility. It is somewhat comparable to reduced electric or water utility charges for use of systems in off-peak periods. Capital costs are lower because smaller conveyance system sizes can be used downstream from the property and, perhaps, older systems need not be replaced. Maintenance costs are lower because, presumably, the peak or volume of flow is reduced and thus the velocity-volume impacts on structural members and natural bed and banks is reduced. The actual determination of cost reductions is very difficult and therefore rules-of-thumb are often used. This type of cost reduction is contained in the impact reduction method suggested above.

Another cost reduction approach involves reduction of municipal responsibility by using private resources. Communities spend a certain number of dollars per acre on major and minor system maintenance. Larger properties which maintain their own systems to a certain acceptable standard may reduce the utility's cost for managing the impacts from their large area. This can be recognized through a credit equal to the area they remove from the utility's responsibility or the portion of the utility's cost of service that is reduced. Durham, NC approached the credit problem using this method. This approach is usually applied only when the existing service level requires the public agency takes responsibility for the conveyance system on private property, and that responsibility is taken over by the owner/operator of the site. In the County's situation, this could occur where services are provided for the conveyance system for example, and the private owner takes on the maintenance responsibility from the County.



To implement a mechanism like this, it will be necessary to: (1) determine the utility's projected cost per acre for the maintenance operations program; (2) determine a minimum area for which a property can apply for this credit based on the minimum size the utility typically maintains; (3) determine acceptable maintenance standards; (4) determine a means of verifying that the property owner or manager has an internal grounds crew or a contract grounds crew and a specific maintenance plan that will result in a suitable service level; and (5) determine an inspection or other reporting method to ensure compliance.

Conservation easements, where existing forested land is placed under a permanent conservation easement to prevent development, is one tool that can be used when current undisturbed forested areas are present in the County and it is desired that such property be protected. Credits for such action typically require the easement be dedicated to a third-party land trust and that the easement be placed on a significant portion of the lot or parcel. For example, if there is an undisturbed lot of 5 acres of which 80 percent is forested and is being considered for development, dedicating 10 percent in a conservation easement may not result in any measurable benefit. The County would need to consider the outcome of the dedication, in terms of a reduction in impact or cost of service for stormwater management, as one element of the credit criteria.

*Recommendation: Credit for dedication of forested areas and for the maintenance of conveyance systems should be evaluated by the County to determine how to value these within the credit program structure. These are recognized as more difficult credit program elements to create though they may be useful as the County completes its system assessment program.*